



# CHAIRMAN OF THE JOINT CHIEFS OF STAFF INSTRUCTION

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J-6

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CJCSI 6251.01D

30 November 2012

## NARROWBAND SATELLITE COMMUNICATIONS REQUIREMENTS

References: See Enclosure D.

1. Purpose. This instruction provides high-level operational policy, guidance, and procedures for narrowband<sup>1</sup> satellite communications (SATCOM) user requirements and for Joint Interoperability Test Command (JITC) system standards conformance test certification.
2. Superseded/Canceled. CJCSI 6251.01C, 15 August 2009, "Narrowband Satellite Communications Time Division Multiple Access Requirements," is superseded.
3. Applicability. This instruction applies to all U.S. government, allies, and partners that plan, use, manage, control, and sustain Department of Defense (DoD) narrowband capabilities.
4. Policy. This instruction prescribes policy for the modes of Single Access (SA) and Multiple Access (MA) on narrowband systems. MA is used to maximize communications efficiency for Combatant Commands and other authorized users. Specifically, it identifies the interoperability requirements of Demand Assigned Multiple Access (DAMA) and Integrated Waveform (IW) terminals when accessing nonprocessed narrowband SATCOM. In the event a terminal is not operationally compliant in both the MA and DAMA modes of the defined waveforms, or fails to satisfy one or more of the Military Standard (MIL-STD) requirements, this instruction defines the process to submit a waiver request for interim use of nonprocessed narrowband resources. Mobile User Objective System (MUOS) Wideband Code Division Multiple Access

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<sup>1</sup> Narrowband SATCOM is defined as current, planned, and future DoD-owned, leased, and hosted SATCOM assets in the ultrahigh frequency (UHF) spectrum. Included in this definition are the space, control, and terminal segments, as well as accesses used to integrate UHF SATCOM into the Global Information Grid (GIG). Unless stated specifically, the term "narrowband" used throughout the remainder of this instruction is a reference to narrowband SATCOM.

(WCDMA) is intended as the ultimate replacement system for current legacy ultrahigh frequency (UHF) SATCOM. In future iterations of this instruction, the Joint Staff will incorporate WCDMA MIL-STD certification and waiver procedures.

5. Definitions. See Glossary.

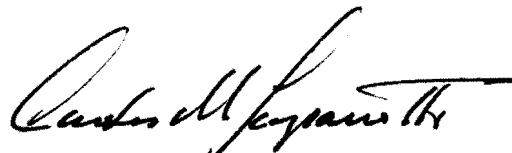
6. Responsibilities. See Enclosure B.

7. Summary of Changes. Primary changes clarify roles and responsibilities of the Joint Staff, U.S. Strategic Command (USSTRATCOM), Defense Information Systems Agency (DISA), Combatant Commands, and other organizations participating in narrowband operations. Specifically, this instruction addresses the DoD efficiencies effort that in 2011 shifted resources from Joint Staff to USSTRATCOM.

8. Releasability. This instruction is approved for public release; distribution is unlimited. DoD components (to include the Combatant Commands), other Federal Agencies, and the public may obtain copies of this instruction through the CJCS Directives Home Page—[http://www.dtic.mil/cjcs\\_directives](http://www.dtic.mil/cjcs_directives)—on the Internet.

9. Effective Date. This instruction is effective upon receipt.

For the Chairman of the Joint Chiefs of Staff



CURTIS M. SCAPARROTTI  
Lieutenant General, U.S. Army  
Director, Joint Staff

Enclosures:

- A – Narrowband Policy
- B – Responsibilities
- C – Waiver Process
- D – References
- GL – Glossary

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ENCLOSURE A

NARROWBAND POLICY

1. Purpose. This enclosure prescribes policy for the use of DoD narrowband systems to maximize communications efficiency for Combatant Commands and other authorized users.

2. Narrowband SATCOM User Requirements

a. Background. The legacy DoD narrowband system consists of 5 kHz and 25 kHz transponders onboard UHF military satellites and Mobile User Objective System (MUOS) legacy payloads. It is a low-density, high-demand asset providing critical tactical communications-on-the-move capability. The increased demand for training and operational requirements coupled with the decreasing availability of UHF channels on-orbit prompted DoD leadership to mandate that DAMA and IW capabilities be incorporated on nonprocessed narrowband resources.

(1) MJCS-36-89, "UHF Satellite Communications Secure Voice Policy." On 28 February 1989, the Joint Staff mandated all users be interoperable with the Advanced narrowband Digital Voice Terminal (ANDVT) Application 3 using Linear Predictive Coding – Coefficient 10 (LPC-10) voice digitization algorithm by the end of FY 1994.

(2) MJCS-63-89, "UHF Satellite Communications Demand Assigned Multiple Access Requirement." On 17 April 1989, the Joint Staff mandated all users of nonprocessed narrowband transponders to possess equipment that was either interoperable with the TDMA-1 Distributed Control mode using the approved 25-kHz standard or in the DAMA mode using the approved 5-kHz standard by 30 September 1996.

(3) MCM-89-94, "UHF Satellite Communications Demand Assigned Multiple Access Requirement." This memorandum superseded MJCS-63-89 on 28 July 1994 due to technical and programmatic developments in UHF DAMA. MCM-89-94 also introduced a waiver process for users that were unable to comply with the directives in MJCS-63-89.

(4) MCM-105-94, "Revised UHF Satellite Communications Secure Voice Policy." This memorandum superseded MJCS-36-89 on 31 August 1994 and extended the interoperability requirement date for ANDVT Application 3 using LPC-10 voice digitization algorithm to no later than 30 September 1996. This memorandum was superseded and later integrated into the CJCSI 6251.01.

(5) CJCSI 6251.01, "UHF Demand Assigned Multiple Access Requirements." The initial version of this instruction superseded MCM-89-94 on 31 July 1996 and incorporated new guidance on the narrowband DAMA waiver process.

(6) JROCM 233-05. This Joint Requirements Oversight Council (JROC) memorandum endorsed IW for development and implementation into the narrowband SATCOM system as recommended by the Net Centric Functional Capabilities Board (NC FCB) on 1 November 2005.

b. narrowband Services. Nonprocessed narrowband services are currently provided via transponders on selected UHF Follow-on and Fleet Satellites, as well as internationally hosted payloads. MUOS will provide additional narrowband services via legacy payloads. These services may be provided on either single access (dedicated or DA) or multiple access (shared) channels. Note that MUOS, the next-generation narrowband constellation, is expected to support the categories of services identified in this instruction with on-board legacy UHF transponders through the year 2025. In addition to the legacy UHF waveform, MUOS will also have a Wideband Code Division Multiple Access (WCDMA) payload. Policy for the WCDMA capability will be incorporated in future versions of this instruction.

(1) Dedicated Channel Service. As required to support mission requirements, Combatant Commands may assign certain allocated narrowband resources (5/25 kHz) as dedicated channels. However, this shall be limited as much as possible. Assignment to DAMA or IW networks is the standard, with dedicated channels being the exception. Requirements for narrowband service are significantly greater than the number of available channels on-orbit. The narrowband SATCOM dedicated waveform is defined in the MIL-STD-188-181 series.

(2) DAMA Service. DAMA is an automated channel-sharing method for multiple user networks to concurrently use a single narrowband channel. Demand-based assignment means that unused transponder space can be dynamically reallocated in near-real time on the basis of precedence, thereby increasing the loading efficiency by providing up to 20 times the effective information throughput of a single-user system. UHF DAMA has two variants with different communications services and operating schemes, the 5 kHz and the 25 kHz DAMA waveforms, which are defined in the MIL-STD-188-182 series and MIL-STD-188-183 series.

(a) 5 kHz DAMA. The 5-kHz DAMA protocol uses TDMA. It was primarily designed to support multiple-user 75 bps to 2400 bps secure data that can tolerate delays induced by the waveform, with voice being secondary.



It provides efficient handling of short messages, as well as effective resource sharing between voice and data communications.

(b) 25 kHz DAMA. The 25 kHz DAMA is also a TDMA protocol. It supports equipment-selective data rates of 75 bps to 16,000 bps for data and secure voice. It has shorter frame times and supports more data rates and simultaneous users than 5 kHz DAMA. A 25 kHz DAMA channel can support a maximum of five 2.4 kbps voice/data network timeslots.

(3) IW Service. IW provides system enhancements that can more than double DAMA system capacity and greatly improve quality of service. IW standards are defined in the MIL-STD-188-181/182/183 series.

(a) IW enhancements over the DAMA waveform:

1. Better voice quality.
2. Better link closure. IW receivers can synchronize to an IW transmitter with approximately half the signal power of a comparable DAMA terminal operating on a DAMA network.
3. Terminal set-up procedures and user operations are vastly simplified.
4. Higher channel throughput (more bits per channel). DAMA offers three effective burst rates of 7.2, 14.4, and 24 kbps. IW offers seven burst rates from 9.6 kbps to 56 kbps.
5. More networks supported per channel. IW will support an average of thirteen 2.4 kbps voice/data networks per 25-kHz channel. DAMA supports a maximum of five 2.4 kbps networks per 25 kHz channel.
6. Channel configuration flexibility. An IW timeslot can be tailored to fit size and location within the TDMA frame on a 5 kHz or 25 kHz channel. Additionally, IW offers the asynchronous data transfer service to provide configuration flexibility for data communications.
7. Backward compatibility with legacy DAMA. Since IW timeslots can be tailored to any size and location within the TDMA frame, IW services can be placed on DAMA timeslots using compatible DAMA modulation. This does not mean a DAMA user can operate on an IW network; this feature only allows an IW user to operate on a DAMA network.

(b) IW Development Process. IW is a two-phased upgrade for fielded legacy terminals. The NC FCB approved the IW upgrade for the following

radios and controllers: ARC-231, MD-1324B, MD-1324 ECS, PRC-117F, PSC-5C/D, ARC-210 (Gen 4/5), PRC-148 JEM, USC-61 DMR, USC-62 JTT, RT-1828/9 and the system access Channel Controller (CC). Other terminals are also scheduled to receive upgrades to IW capability, including the PRC-152 and PRC-117G through independent vendor initiatives, and the ARC-234 through independent Service initiatives. All future software-programmable radios that access nonprocessed narrowband resources shall be IW capable.

1. Phase I. Supports single access (one NET per channel using MIL-STD-188-181 series ) and multiple access (multiple networks per channel using MIL-STD-188-183 series ). Only pre-assigned services will be supported during this phase. Pre-assigned services means the user networks are preplanned, assigned a service number, activated and deactivated by the control system and not by the user terminals via orderwire messages. All active pre-assigned services are announced (broadcast) over a system orderwire every 15–20 seconds. User terminals monitor the system orderwire and connect to the service selected by the terminal operator.

2. Phase II. Implements MIL-STD-188-181/182/183 series to provide demand assignment capability of either preplanned or ad hoc services. These services can be activated and deactivated by user terminals using orderwire messages. IW Phase II improves demand assigned services offered by DAMA by permitting assignments across a larger pool of resources. Capitalizing on this simplified and easier to use service-on-demand capability will enable Commanders to maximize their allocated narrowband resources.

c. Nonprocessed narrowband SATCOM Terminals

(1) Integrated Waveform Terminals. The ARC-231, MD-1324B, MD-1324 ECS, PRC-117F/G, PSC-5C/D, ARC-210 (Gen 4/5), PRC-152, PRC-148 JEM, USC-61 DMR, USC-62 JTT, RT-1828/9 and the CC are identified to receive IW software upgrades. Other terminals are also scheduled to receive upgrades to IW capability—including the PRC-152 and PRC-117G through independent vendor initiatives, and the ARC-234 through independent Service initiatives. IW terminals must be fully interoperable and operationally compliant using the latest revisions of the MIL-STD-188-181/182/183/184 series.

(2) Demand Assigned Multiple Access Terminals. All existing terminals accessing nonprocessed narrowband systems not identified for the IW upgrade must be fully interoperable and operationally compliant in accordance with the appropriate revisions of the MIL-STD-188-181/182/183 series.

(3) All control segments are required to be interoperable and support operations for terminals operating in SA and DAMA modes over 5 kHz and

25 kHz channels. Those control segments identified for the IW upgrade must also be interoperable and support operations in the IW mode. Control segments, including control terminals, must be fully interoperable and operationally compliant using the latest revisions of MIL-STD-188-185 series and the channel control interoperability requirements for channel control of MIL-STD 188-181/182/183 series terminals.

(4) Terminals (to include controllers) will be certified for the required military standard using the JITC system standard conformance test certification. All program offices developing terminals/controllers that fail to comply with this policy are required to submit a waiver via their respective Combatant Command, Service, or Agency (C/S/A) to Joint Staff (JS) J6 using the process in Enclosure C. Additionally, prior to deployment of a terminal, users must obtain certification of spectrum support as required by reference a prior to experimental testing, developmental testing, or operations of satellite terminals in the United States and its possessions or in any foreign country in which they intend to operate.

(5) All IW capable terminals shall operate using IW to the maximum extent possible. Increased use of the IW capability is necessary to increase the number of UHF accesses on orbit per available channel and to most effectively use available UHF resources.

d. Integrated Broadcast Service Common Interactive Broadcast Terminals. The common interactive broadcast (CIB) is a near-real-time intelligence and information-sharing service using a narrowband SATCOM interactive broadcast. CIB uses a subset of the DAMA/IW standards as tailored by MIL-STD-188-181/182/183 series test plans. Additionally, the CIB includes another protocol layer defined by MIL-STD-188-186 series. Terminals certified to operate or access the narrowband CIB service must be fully interoperable and operationally compliant with the latest revision of MIL-STD-188-186 series, the tailored MIL-STD 188-181/182/183 series test plan, and the Integrated Broadcast Service CIB Interoperability Specification (IOS). Terminals (to include controllers) will be certified using the JITC system standard conformance test certification. All program offices developing terminals that fail to comply with this policy are required to submit a waiver via their respective C/S/A to JS J6 using the process in Enclosure C.

3. Mobile User Objective System Requirements. As MUOS proceeds through development and fielding, policy guidance for the WCDMA waveform will be addressed and governed by this instruction. MUOS will employ a military implementation of the commercial third-generation WCDMA waveform to provide a satellite-based capability similar to that provided by commercial cellular towers. By using the UHF spectrum, MUOS will provide tactical communications in remote disadvantaged environments with the ability to

connect through moderate obstructions like weather, foliage, and some urban obstructions. In future iterations of this instruction, the Joint Staff will incorporate WCDMA MIL-STD certification and waiver procedures.

4. TDMA Orderwire Transmission Security. For all narrowband TDMA systems, the channel control information (orderwire) is unclassified national security-related information of value to an adversary. Significant risk of telecommunications exploitation of the uplink and downlink channel control signals exists if the orderwire is exploited. Narrowband satellite orderwire transmissions shall utilize an approved Type I algorithm and are required on all TDMA systems in all operating modes to preclude intrusion or exploitation by an adversary. Encryption shall be implemented as defined in the military standards in references b-j.

5. Joint UHF Military SATCOM Network Integrated Control System. Joint UHF Military Satellite Communications Network Integrated (JMINI) Control System (CS) completed JITC Joint Interoperability Assessment and obtained Full Operational Capability in 2007. The CS was built on requirements derived from MIL-STD 188-181/183 series standards and MIL-STD 188-185 series because a MIL-STD did not exist that captured the requirements for channel control of MIL-STD 188-181/183 series terminals. Additionally, when MIL-STD 188-185 series updated the original MIL-STD it was no longer interoperable with MIL-STD 188-181/182/183 series terminals as standalone systems. Due to these complications and the current efforts to develop MIL-STDs for MUOS, the JMINI CS will be evaluated under the same MIL-STDs used for initial certification.

## ENCLOSURE B

### RESPONSIBILITIES

1. Purpose. To define narrowband SATCOM organizational responsibilities and functions.

2. Responsibilities

a. Department of Defense Chief Information Officer (DoD CIO)

(1) Provides overall communications systems policy, planning, programming, and budgeting guidance, as well as architecture and standards approval for the DoD.

(2) Ensures SATCOM systems are integrated in the GIG and are compliant with approved technical standards agreements within the Department of Defense and between the Department and other Federal agencies, international military allies, and appropriate civil and commercial entities.

b. Chairman of the Joint Chiefs of Staff

(1) Maintains oversight of operational SATCOM activities and resources supporting Presidential and DoD requirements at all levels of conflict through peace, crisis, and war.

(2) Provides operational policy, guidance, and procedures for the planning, management, employment, and use of SATCOM resources.

(3) Provides guidance and ensures compliance with joint and allied SATCOM system and technical standards.

c. Director for Command, Control, Communications, and Computer Systems (J-6), Joint Staff

(1) Monitors, coordinates, and formulates actions requiring CJCS approval for strategic, tactical, and contingency SATCOM resources. Develops a coordinated Joint Staff position on SATCOM issues having operational implications.

(2) Monitors the health and operational status of SATCOM systems and relevant connected networks, as reported.

(3) Chairs the Command, Control, Communications and Computers (C4)/Cyber Functional Capability Board that validates and approves key performance parameters and capabilities documents for SATCOM, terminal, and other communications systems in accordance with reference k.

(4) Provides oversight of the waiver process for narrowband SATCOM terminals unable to meet the interoperability standards and/or unable to support operations using the nonprocessed narrowband required waveforms.

(5) Provide an annual summary of terminal compliance to the Joint Staff that will at a minimum include a summary of current waivers and adequacy of current MIL-STDs. DISA will also be provided a copy of this report.

d. Commander, U.S. Strategic Command

(1) Under Combatant Command authority for on-orbit SATCOM systems, serves as the SATCOM operational manager (SOM). Directs day-to-day operational management of DoD-owned and leased SATCOM resources to provide authorized users with global SATCOM support as operations and evolving requirements dictate in accordance with reference l.

(2) Develops, coordinates, and implements operational management policies and procedures for use of all SATCOM resources.

(a) Publishes and maintains documentation that defines the operational capability and replenishment criteria for SATCOM systems and provides the operational concept for system control, system policies, and procedures for effective and efficient SATCOM resource management.

(3) Directs engineering analyses and other performance-related studies for currently deployed and future systems, as necessary.

(a) Provides information on system use and status to the Joint Staff, supported Combatant Commands, DISA, and other authorized users as requested (e.g., status and system trends). Analysis must also include recommendations or ongoing actions to fix identified operational deficiencies.

e. Director, Defense Information Systems Agency (DISA)

(1) Defines system performance criteria for Military SATCOM (MILSATCOM) systems and through coordination with DoD components, develops, and performs general systems engineering to achieve long-term, interoperable, mission-capable systems. The Director, DISA, shall continually analyze Military Department programs, plans, budgets, and MILSATCOM

systems performance to identify areas of deficiency and shall recommend or initiate corrective actions as appropriate.

(2) Serves as the Systems Engineer for SATCOM and focal point for SATCOM systems architectural engineering for the Department of Defense.

(a) Provides enterprise-wide SATCOM system engineering support to DoD CIO, Joint Staff, DoD Executive Agent (EA) for Space, and USSTRATCOM.

(b) Assists USSTRATCOM SOM, Consolidated SATCOM System Experts (C-SSE), and SATCOM System Experts (SSE) with terminal certification and waivers for their assigned systems. Performs technical evaluations to ensure all SATCOM systems and terminals are compliant with approved DoD SATCOM MIL-STDs and agreements.

(c) Assists the EA for Information Technology Standards, develops, and maintains DoD MIL-STDs and the adoption or adaptation of commercial standards suitable for DoD applications.

f. Military Departments

(1) Provide “organize, train, and equip” support to USSTRATCOM components tasked with SATCOM responsibilities, as appropriate.

(2) Support the Military Communications and Electronics Board, Joint Staff, USSTRATCOM, DoD CIO, EA for Space, and DISA in the development and assessment of SATCOM requirements, systems standards, and other studies and working groups as requested and outlined in reference a.

(3) Ensure all current and future systems (satellites, control segment, and terminals) are compliant with military and appropriate commercial standards and published policies.

g. Combatant Commands and Heads of Defense Agencies

(1) Provide operational control of sub-networks for allocated SATCOM resources, including:

(a) Manage allocated SATCOM resources and utilize those resources provided in support of validated requirements.

(b) Establish access priorities for subordinate units in accordance with appropriate OPLAN, CONPLAN, or mission requirement.

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## ENCLOSURE C

### WAIVER PROCESS

1. Purpose. This enclosure defines the waiver process for narrowband SATCOM terminals accessing nonprocessed narrowband systems that do not meet the interoperability standards or are unable to support operations using the waveforms listed in Enclosure A.

2. Waivers

a. Terminals shall be tested to certify compliance with the required MIL-STDs in accordance with DISA system standards conformance test certification procedures. Any hardware or software changes to a terminal that has been previously certified by DISA must be recertified by DISA. To avoid ambiguities and inconsistencies between the MIL-STDs and certification test documents, the certification test plans and procedures will be developed by the UHF SATCOM Technical Working Group (TWG), which develops the MIL-STDs and reports to the Satellite Interoperability and Standards Committee (SISC). The UHF SATCOM TWG is chaired by DISA and is open to terminal program managers and industry participation.

b. Waivers are required when terminals fail to completely meet all applicable requirements outlined in references b-j and m. A waiver is also required when the terminal cannot technically operate within the military standards required in Enclosure A. Waivers are valid only for the specific hardware configuration and software version of the terminal presented for certification. DISA will formally report deficiencies to the waiver requestor and JS J6. Upon review of the DISA standard conformance certification test report, USSTRATCOM will classify terminal certification deficiencies as critical or non-critical. Certification deficiencies shall be marked as critical when they result in an unacceptable degradation of interoperability with mission critical systems, effective user communications, performance of waveform functions, narrowband system efficiency, or overall operational effectiveness. Certification test disputes will be resolved by DISA via the UHF SATCOM TWG and the SISC. Any changes to a terminal's hardware or software configuration requires that terminal to be recertified by DISA and another waiver to be issued if it does not meet all MIL-STD requirements.

c. The program manager, sponsoring Combatant Command, or international partner will submit a waiver request in memorandum format, via the supporting service or agency if applicable, to JS J6. Copies of the waiver

request will be furnished to USSTRATCOM and DISA. Services and agencies have primary responsibility for submitting and maintaining waivers to support present or future systems and networks not technically compliant with defense standardization policies and procedures in reference n. Combatant commands have responsibility for those systems that are not fielded by a Service or agency, but are mission specific for their area of responsibility. International partners have responsibility for those systems that will use US UHF SATCOM resources. The waiver request should be submitted at least 60 days in advance and must list:

- (1) Point of contact information
  - (2) Terminal nomenclature and configuration information.
  - (3) Type of network. Identify the communications topology of the user network/system and type of the communication requirements.
  - (4) Function of the network (voice or data). If used for data, identify the data volume and delivery requirements.
  - (5) Provide the assigned SATCOM database (SDB) number or documentation requesting the network/SDB number.
  - (6) Describe the specific shortcomings of the terminal in terms of the portions of the MIL-STDs that the terminal does not meet. List the numbers of unsatisfied requirements as defined in the appropriate MIL-STD test plan (e.g., MIL-STD-188-181 series requirement 35, 64, and 123).
  - (7) Describe the known/anticipated technical and/or operational impact to the overall system.
  - (8) Provide alternative terminal options (if any) to meet the requirement.
  - (9) Describe plans to bring the terminal into full compliance.
  - (10) Describe the fiscal, schedule, and operational impacts if the waiver is not granted.
- d. As required, JS J6 will task USSTRATCOM to evaluate each waiver request, with operational assessment assistance from the Combatant Commanders, DAMA/IW controller developers, and DISA.
- e. JS J6 will coordinate all critical terminal certification waivers with Combatant Commanders, Service Chiefs, and DISA.

f. JS J6 will be the final approving authority for all satellite certification waivers.

g. Critical waivers will be valid for a maximum of 2 years. Noncritical waivers may be valid for the life of the terminal, at the discretion of the waiver authority.

h. Approved technical waivers will be reflected in the SDB and, if not in compliance, must be resubmitted to JS J6 for revalidation at least 60 days prior to the expiration date of the waiver.

i. Approved technical waivers do not authorize or guarantee satellite or network access. The applicable Combatant Commander or agency has the authority to grant access over their allocated resources.

j. Any waiver will be cancelled or revoked if it becomes apparent that the use of the terminal(s) creates a detrimental impact on other narrowband users. Technical waivers are not required for systems with approved certification waivers.

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ENCLOSURE D

REFERENCES

References

- a. DODI 4650.01, January 9, 2009, "Policy and Procedures for Management and Use of the Electromagnetic Spectrum"
- b. MIL-STD-188-181B, 20 March 1999, "Interoperability Standard for Dedicated 5 kHz and 25 kHz UHF Satellite Communications Channels"
- c. MIL-STD-188-181C, 31 May 2011, "Interoperability Standard for Access to 5 kHz and 25 kHz UHF Satellite Communications Channels"
- d. MIL-STD-188-182A, 31 March 1997, "Interoperability Standard for 5 kHz UHF DAMA Terminal Waveform"
- e. MIL-STD-188-182B, 22 January 2010, "Interoperability Standard for UHF SATCOM DAMA Orderwire Messages and Protocols"
- f. MIL-STD-188-183A, 30 March 1998, "Interoperability Standard for 25 kHz UHF TDMA/DAMA Terminal Waveform"
- g. MIL-STD-188-183B, 30 September 2009, "Interoperability Standard for Multiple Access 5 kHz and 25 kHz UHF Satellite Communications Channels"
- h. MIL-STD-188-184, 20 August 1993, "Interoperability and Performance Standard for Data Control Waveform"
- i. MIL-STD-188-185A, 12 March 2012, "Interoperability of UHF MILSATCOM DAMA Control System"
- j. MIL-STD-188-186, 24 August 2009, "Interoperability Standard for UHFSATCOM Short-Delay Report – Broadcast Service"
- k. CJCSI 3170.01G, 1 March 2009, "Joint Capabilities Integration and Development System"
- l. CJCSI 6250.01D, 17 February 2010, "Satellite Communications"
- m. IBS CIB IOS, 21 August 2009, "Integrated Broadcast Service Common Interactive Broadcast Interoperability Specification"

n. DoD 4120.24-M, 9 March 2000, “Defense Standardization Program (DSP)”, Policies and Procedures

#### Related Documents

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DoDD 4630.05, 23 April 2007, “Interoperability and Supportability of Information Technology (IT) and National Security Systems (NSS)”

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MJCS-36-89, 28 February, 1989, “UHF Satellite Communications Secure Voice Policy”

MJCS-63-89, 17 April 1989, “UHF Satellite Communications Demand Assigned Multiple Access Requirement”

MCM-89-94, 28 July 1994, “UHF Satellite Communications Demand Assigned Multiple Access Requirement”

MCM-105-94, 31 August 1994, “Revised UHF Satellite Communications Secure Voice Policy”

U.S. Strategic Command Instruction (SI) 714-1, 2 February 2006, “DoD Gateways (STEP/Teleports)”

U.S. Strategic Command Instruction (SI) 714-2, 29 September 2009, “Satellite Communications (SATCOM) Systems Expert (SSE) and Consolidated SSE (C-SSE) Responsibilities”

U.S. Strategic Command Instruction (SI) 714-4, 14 October 2007, “Consolidated Satellite Communications (SATCOM) Management Policies and Procedures (C-SMPP)”

## GLOSSARY

### PART I – ABBREVIATIONS AND ACRONYMS

|         |                                                 |
|---------|-------------------------------------------------|
| bps     | Bits per Second                                 |
| C4      | Command, Control, Computers, Communications     |
| CC      | Channel Controller                              |
| CIB     | Common Interactive Broadcast                    |
| CIO     | Chief Information Officer                       |
| C/S/A   | Combatant Command, Service, Agency              |
| CJCS    | Chairman, Joint Chiefs of Staff                 |
| CJCSI   | CJCS Instruction                                |
| CONPLAN | Concept Plan                                    |
| CS      | Control System                                  |
| DA      | Demand Assigned                                 |
| DAMA    | Demand Assigned Multiple Access                 |
| DISA    | Defense Information Systems Agency              |
| DISN    | Defense Information Systems Network             |
| DoD     | Department of Defense                           |
| DoD CIO | Department of Defense Chief Information Officer |
| DSP     | Defense Standardization Program                 |
| EA      | Executive Agent                                 |
| GIG     | Global Information Grid                         |
| IBS     | Integrated Broadcast Service                    |
| ICD     | Interface Control Document                      |
| IOC     | Initial Operational Capability                  |
| IOS     | Interoperability Specification                  |
| IW      | Integrated Waveform                             |
| JITC    | Joint Interoperability Test Command             |
| JMINI   | Joint UHF MILSATCOM Network Integrated          |
| JP      | Joint Publication                               |
| JROC    | Joint Requirements Oversight Council            |
| JROCM   | Joint Requirements Oversight Council Memorandum |
| kbps    | Kilobits per Second                             |
| kHz     | Kilohertz                                       |
| LPC-10  | Linear Predictive Coding – Coefficient 10       |

|            |                                                    |
|------------|----------------------------------------------------|
| MA         | Multiple Access                                    |
| MCM        | Memorandum, Chairman's Memorandum                  |
| MELP       | Mixed Excitation Linear Prediction                 |
| MILSATCOM  | Military Satellite Communications                  |
| MIL-STD    | Military Standard                                  |
| MJCS       | Memorandum, Joint Chiefs of Staff                  |
| MUOS       | Mobile User Objective System                       |
| NC FCB     | Net-centric Functional Capabilities Board          |
| NIPRNET    | Non-Secure Internet Protocol Routing Network       |
| NSS        | National Security Systems                          |
| OPLAN      | Operations Plan                                    |
| OSD        | Office of the Secretary of Defense                 |
| SA         | Single Access                                      |
| SATCOM     | Satellite Communications                           |
| SDB        | Satellite Communications Database                  |
| SI         | STRATCOM Instruction                               |
| SISC       | Satellite Interoperability and Standards Committee |
| SOM        | Satellite Communications Operational Manager       |
| SSE        | Satellite Systems Expert                           |
| STRATCOM   | Strategic Command                                  |
| TDMA       | Time Division Multiple Access                      |
| TWG        | Technical Working Group                            |
| UHF        | Ultrahigh Frequency                                |
| USSTRATCOM | U.S. Strategic Command                             |
| WCDMA      | Wideband Code Division Multiple Access             |



## PART II – DEFINITIONS

**NOTE:** The following terminology is chiefly specialized for satellite communications. It has not been standardized for general, DoD-wide use and inclusion in the **Department of Defense Dictionary of Military and Associated Terms** (JP 1-02) unless indicated by the parenthetical phrase “(JP 1-02)” after the definition. In some cases, JP 1-02 may have a general, DoD-wide definition for a term used here with a specialized definition for this instruction.

1. Access. The right to enter a SATCOM network and make use of communications payload resources.
2. Allocation. The authorized use of SATCOM resources to support validated requirements.
3. Approval. Official sanction of an access requirement that may result in the assignment of a SATCOM allocation for a specific mission or purpose. This definition is specific to the SATCOM requirements process described in this instruction and not necessarily identical to its usage in other requirements or acquisition documentation.
4. Apportionment. The SATCOM resources assumed to be available to a Combatant Commander for planning purposes.
5. Combatant Command. A unified or specified command with a broad continuing mission under a single commander established and so designated by the President, through the Secretary of Defense and with the advice and assistance of the Chairman of the Joint Chiefs of Staff. Combatant commands typically have geographic or functional responsibilities. (JP 1-02)
6. Coordinate. Unless parties are specifically identified, generally means synchronizing an action with Joint Staff, C/S/As and USSTRATCOM (as the SATCOM Operational Manager).
7. Demand Assigned Multiple Access. A channel access scheme in which access to time slots on a channel from geographically distributed communications terminals are allocated in accordance with demand.
8. Defense Information Systems Network (DISN). The DISN is a composite of DoD-owned and leased telecommunications subsystems and networks comprised of facilities, personnel, and material under the management control and operational direction of DISA. The DISN provides the long-haul, point-to-point, and switched network telecommunications needed to satisfy the requirements of the Department of Defense and certain other departments and agencies.

9. Global Information Grid. The globally interconnected, end-to-end set of information capabilities, associated processes and personnel for collecting, processing, storing, disseminating, and managing information on demand to warfighters, policy makers, and support personnel. The Global Information Grid includes all owned and leased communications and computing systems and services, software (including applications), data, security services, other associated services and National Security Systems. (JP 1-02)
10. Integrated Waveform. IW is a software upgrade to legacy terminals that improves DAMA communications using legacy UHF channels. Improvements include better link margin, an integrated MELP vocoder, more timeslots with flexible configuration options, and superior user setup.
11. Mixed Excitation Linear Prediction. MELP is a DoD speech coding standard used mainly in military applications and satellite communications, secure voice, and secure radio devices.
12. Military Satellite Communications. Satellite communications resources owned and operated by the DoD, primarily in the government frequency bands.
13. narrowband SATCOM. Current, planned, and future DoD-owned, leased, and hosted SATCOM assets in the Ultrahigh Frequency (UHF) spectrum. Included in this definition are the space, control, and terminal segments, as well as accesses used to integrate UHF SATCOM into the GIG.
14. Network Centric. The realization of a robust, secure, globally connected network environment in which information is shared in a timely manner and seamlessly among users, applications, and platforms.
15. Nonprocessed SATCOM Channel. A satellite channel that uses a non-regenerative transponder. Non-regenerative transponders can only receive, amplify, frequency translate, and re-transmit a received signal (signals are neither processed nor reconstituted). Only nonprocessed channels can be operated in UHF DAMA mode.
16. Operational Management. Encompasses the capability and processes needed to effectively plan, monitor, manage, and control all available resources and to provide global resource situational awareness for the Combatant Commands and other authorized users as an integral part of the global communications management structure. It requires visibility into commercial, allied, and civil SATCOM resources to determine status and availability for operational missions. It includes performing apportionment, allocation, assignment, and integration management in accordance with operational requirements. For MILSATCOM, it also includes satellite platform and payload

control, as well as day-to-day resource management of space and ground resources.

17. SATCOM System Expert. The USSTRATCOM assigned component or designated organization responsible for providing the technical planning and management functions in support of the operational management of a specific SATCOM constellation.

18. SATCOM Operational Manager. The organization responsible for day-to-day operations and management of SATCOM resources.

19. SATCOM resources. DoD-owned and leased SATCOM systems, networks, personnel, and equipment that support SDB requirements.

20. Time Division Multiple Access. A communications technique that allows multiple terminals to share a given frequency spectrum. Each terminal has exclusive use of the frequency spectrum for a small time interval (fraction of a frame), which is known as a TDMA time slot.

21. Validation. Official confirmation by a C/S/A that a SATCOM requirement meets a mission need and warrants approval consideration by the Joint Staff. This definition is specific to the SATCOM requirements process described in this instruction and not necessarily identical to its usage in other requirements or acquisition documentation.

22. Waveform. The combination of baseband signal structure, RF signal structure, and protocols required to define a signal transmission and reception. In narrowband SATCOM, the term waveform is most often used to refer to the signal being used (e.g., 5-kHz or 25-kHz DAMA).

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